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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,397	12/15/2003	Christopher L. Kelley	TI-36749	7606

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EXAMINER

MACARTHUR, SYLVIA

ART UNIT PAPER NUMBER

1763

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/737,397	Applicant(s) KELLEY, CHRISTOPHER L.	
	Examiner Sylvia R. MacArthur	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1,2, and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamada (US 2002/0174953).

Yamada teaches a wafer chuck refrigerating plate 14 (temperature control assembly).

Regarding claim 1: The temperature control assembly comprises a housing of generally annular cross-section, wherein the housing comprises: an aperture 332 generally disposed along a center axis of the housing; a first side disposed between the aperture and an outside edge of the housing and including a surface generally perpendicular to the center axis; a channel disposed through the surface; a second side disposed between the aperture and the outside edge and having a reflective appearance; a plurality of sockets disposed between the surface and the second side and formed to accept a plurality of heating elements; and a flange disposed along the first side and having a plurality of holes arranged substantially to align the temperature control assembly for use in an etching process chamber assembly and to position the second side

to face toward a process chamber of the etching process chamber assembly; a cooling conduit formed from a non-corrosive metallic material, wherein the cooling conduit is disposed along a groove created in the first side, disposed within the channel, and disposed adjacent to the aperture; a plurality of fasteners coupled to the housing and operable to associate the cooling conduit with the housing; and a mounting block coupled to the cooling conduit, see Figs 3-5 and [0022] –[0043].

Regarding claim 2: The temperature control assembly of Claim 1, wherein the plurality of fasteners comprises :a plurality of first fasteners disposed within a plurality of cavities, wherein the cavities are formed in the surface such that the first fasteners disposed within the cavities do not extend past the surface; and a plurality of second fasteners disposed along the housing adjacent to the groove such that the second fasteners do not extend past the surface, see Figs. 3-5.

5. The temperature control assembly of Claim 1, wherein the housing is formed of aluminum, according to [0026].

6. The temperature control assembly of Claim 1, wherein the non-corrosive metallic material is copper according to [0026].

The temperature control assembly of Claim 1, wherein the non-corrosive metallic material is stainless steel according to [0043].

8. The temperature control assembly of Claim 1, wherein the mounting block is formed from a metal complementary to the non-corrosive metallic material, according to [0026].

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3. Claims 1,2, 4-6 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Cote, Sr, et al (US 2005/0217583).

Cote, Sr. teaches a wafer chuck (temperature control assembly) having a thermal plate 10 with heating and cooling elements.

Regarding claim 1: The temperature control assembly comprises a housing of generally annular cross-section, wherein the housing comprises: an aperture generally disposed along a center axis of the housing; a first side disposed between the aperture and an outside edge of the housing and including a surface generally perpendicular to the center axis; a channel disposed through the surface; a second side disposed between the aperture and the outside edge and having a reflective appearance; a plurality of sockets (see section 34) disposed between the surface and the second side and formed to accept a plurality of heating elements 12; and a flange disposed along the first side and having a plurality of holes arranged substantially to align the temperature control assembly for use in an etching process chamber assembly and to position the second side to face toward a process chamber of the etching process chamber assembly; a cooling conduit formed from a non-corrosive metallic material, wherein the cooling conduit 14 is disposed along a groove created in the first side, disposed within the channel, and disposed adjacent to the aperture; a plurality of fasteners coupled to the housing and operable to associate the cooling conduit with the housing; and a mounting block coupled to the cooling conduit, see Figs. 1-5.

Regarding claim 2: The temperature control assembly of Claim 1, wherein the plurality of fasteners comprises :a plurality of first fasteners disposed within a plurality of cavities,

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wherein the cavities are formed in the surface such that the first fasteners disposed within the cavities do not extend past the surface; and a plurality of second fasteners disposed along the housing adjacent to the groove such that the second fasteners do not extend past the surface, see Figs. 3-5.

Regarding claims 4 and 19: The temperature control assembly of Claim 2,, wherein the second fasteners each include a curved surface that engages the outside surface of the cooling conduit, the curved surface having a shorter radius than the outside surface, such that when coupled to the housing the second fasteners associate the cooling conduit with the housing by clamping the cooling conduit against the housing. This is a process limitation and can inherently be performed by the apparatus of Cote, Sr. et al according to [0039] and [0043] wherein mechanical latches are taught.

Regarding claim 5: The temperature control assembly of Claim 1, wherein the housing is formed of aluminum, according to [0038].

Regarding claims 6 and 20: The temperature control assembly of Claim 1, wherein the non-corrosive metallic material is copper according to [0038].

Regarding claim 8: The temperature control assembly of Claim 1, wherein the mounting block is formed from a metal complementary to the non-corrosive metallic material, according to [0038].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al or Cote, Sr. et al.

The teachings of Yamada et al or Cote, Sr. et al were discussed above.

The prior art of Yamada et al or Cote, Sr. et al wherein the groove has a radius substantially equal to the radius of the cooling conduit. It is a matter of optimization to design the radius of the groove and the cooling conduit to be substantially equal so that the cooling conduit can fit within the groove. It has been held by In re Boesch, 205 USPQ 215 (CCPA 1980) that the determination of optimum values of cause effective variables such the groove/cooling conduit radius are within the skill of one practicing the art. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to design the radius of the groove and the cooling conduit to be substantially equal so that the cooling conduit can fit within the groove.

Response to Arguments

6. Applicant's arguments with respect to claims 1-9, 19, and 20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-F during the hours of 8:30 a.m. and 5 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 12, 2006


Examiner Sylvia R. MacArthur
AU 1763